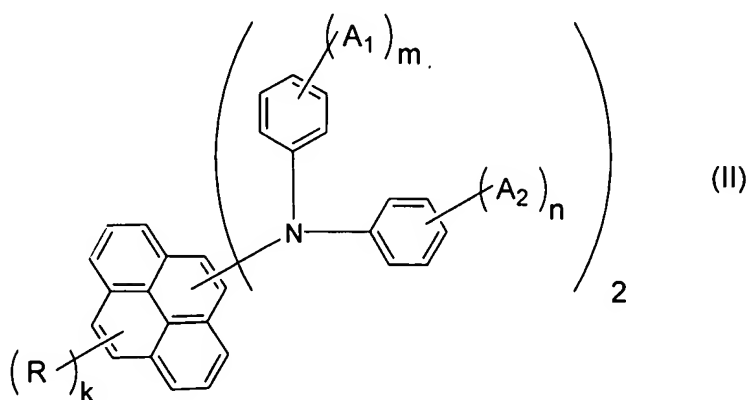


REMARKS

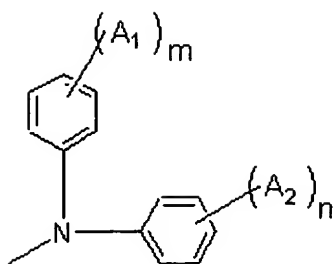
Claims 2, 5, 8 and 10-15, as amended, remain herein. Claims 16-18 have been cancelled. Claims 2 and 8 have been amended. Support for the amendments may be found throughout the specification (see, e.g., original claims).

1. Claims 2, 5, 8 and 10-15 were rejected under 35 U.S.C. § 103(a) over Oh et al. U.S. Patent Application Publication 2003/0118866.

Applicant's claim 2 recites, in relevant part, an aromatic amine derivative represented by the following general formula (II):

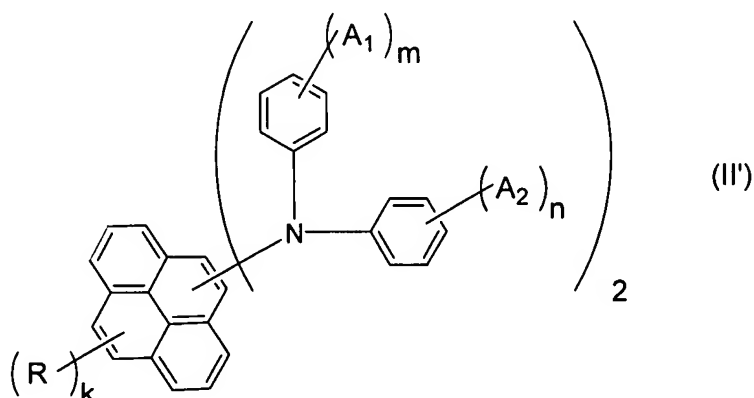


with the proviso that at least one of A₁ and A₂ comprises an unsubstituted alkyl group having 2 or more carbon atoms or an unsubstituted cycloalkyl group having 3 or more carbon atoms; and
the two groups represented by the following formula:

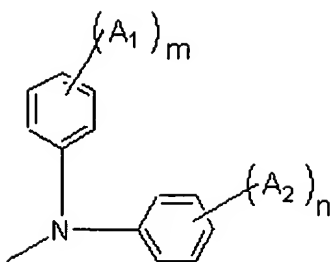


in the general formula (II), may be the same or different from each other, and bond to the pyrene ring at the 1-position and 6-position.

Applicant's claim 8 recites, in relevant part, an aromatic amine derivative represented by the following general formula (II'):

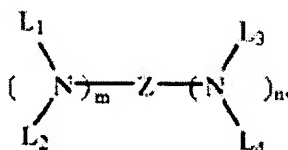


wherein A_1 is an unsubstituted alkyl group having 1 to 50 carbon atoms, a substituted or unsubstituted aryl group having 5 to 50 carbon atoms, an unsubstituted cycloalkyl group having 3 to 50 carbon atoms, an unsubstituted alkoxy group having 1 to 50 carbon atoms, a substituted or unsubstituted arylamino group having 5 to 50 carbon atoms, a substituted or unsubstituted alkylamino group having 1 to 20 carbon atoms, a cyano group or a halogen atom; m is an integer of 2 to 5; and the two groups represented by the following formula:



in the general formula (II'), may be the same or different from each other, and bond to the pyrene ring at the 1-position and 6-position.

Oh does not disclose applicant's claimed aromatic amine derivative of claim 2 or 8. The Office Action states that applicant's claimed aromatic amine derivative reads on Oh's following structural formula:



when z is A₁ and A₁ is a pyrene group. However, Oh says nothing about bonding to the pyrene ring at the 1-position and 6-position.

In addition, unlike claim 2, Oh does not require that at least one of A₁ and A₂ comprises an unsubstituted alkyl group having 2 or more carbon atoms or an unsubstituted cycloalkyl group having 3 or more carbon atoms.

Furthermore, unlike claim 8, Oh does not require that **m** is an integer of 2 or more, i.e., two or more A₁ groups.

Applicant's claimed aromatic amine derivative is not obvious. It provides superior and unexpected properties when used in organic electroluminescent devices, achieving superior efficiency of light emission and longer service life. Applicant's specification explains that:

In the aromatic amine derivative represented by any of the general formulae (I) to (III) and (I') to (III'), since the diphenylamino group having a substituent group is bonded to the pyrene structure, the association between the compounds is prevented, resulting in a prolonged life thereof. Further, the aromatic amine derivatives have a strong fluorescence in a solid state, and are excellent in field light emission, which leads to a fluorescent quantum efficiency as high as 0.3 or more. In addition, the aromatic amine derivatives of the present invention exhibit not only excellent capabilities of injecting and transporting holes from the metal electrode or organic thin film layers, but also excellent capabilities of injecting and transporting electrons from the metal electrode or organic thin film layers and, therefore, are usefully usable as light emitting materials for organic EL devices. Besides, the aromatic amine derivatives of the present invention may be used together with other hole transporting materials, electron transporting materials or doping materials.

Applicant's specification, page 20, lines 1-14 (emphasis added here).

Compare the devices of Examples 1-2 to those of Comparative Example 1). Compounds (12) and (13), in Examples 1 and 2, respectively, include A₁ and/or A₂ groups comprising alkyl groups having 2 or more carbon atoms, as claimed in claim 2. On the other hand, in Comparative Example 1, [1,6-bis(p,p'-ditolylamino)pyrene] ("tolyl" is methylbenzyl) comprises alkyl groups having only 1 carbon atom (methyl) as substituents to the phenyl rings. Examples 1 and 2 achieve a half-life of 2000 hours and 2100 hours, respectively, while Comparative Example 1 exhibits a half-life of 900 hours.

The Office Action states that the above data is not commensurate in scope with the breadth of the claims. To moot this objection, applicant has conducted further experiments which are described in the enclosed Declaration Under 37 C.F.R. § 1.132 by Masakazu Funahashi. Compounds (52) and (54) in Experiments 1 and 2, respectively, include two or more

A₁ groups comprising alkyl groups, as claimed in claim 8. Experiments 1 and 2 also achieve superior half-life, namely 3000 hours and 1900 hours, respectively.

Thus, applicant's claimed aromatic amine derivative is not obvious. Evidence rebutting an obviousness rejection includes evidence that the claimed invention yields unexpectedly improved properties, or properties not present in the prior art. In re Dillon, 919 F.2d 688, 692-93 (Fed. Cir. 1990); MPEP § 2145.

Thus, Oh does not disclose all elements of applicant's claims. Further, Oh discloses nothing that would have suggested applicant's claimed invention or its surprising attendant advantages to one of ordinary skill in the art. There is no disclosure or teaching in Oh or otherwise in this record, that would have suggested the desirability of modifying any portions thereof effectively to anticipate or suggest applicant's presently claimed invention. Applicant respectfully requests reconsideration and withdrawal of this rejection.

2. Claim 18 was rejected under 35 U.S.C. § 103(a) over Oh in view of Hoag et al. U.S. Patent 6,661,023. Claim 18 has been cancelled thereby mooted this rejection.

3. Claims 2, 5, 8, 10 and 12 were rejected for alleged obviousness-type double patenting over claims 1, 2, 5, 9, 10, 11, 15, 19, 20, 24 and 25 of U.S. Patent 7,732,063. Applicant submits herewith a Terminal Disclaimer to moot this rejection.

4. Claims 2, 5, 8, and 10-12 were rejected for alleged obviousness-type double patenting over claims 1-8 of U.S. Patent Application Serial No. 11/596,299. Applicants respectfully request deferral of any such rejection until the claims of the present application are deemed otherwise allowable. In addition, because the '299 application was filed after the present application, applicants may obtain a patent issued from the present application without filing a terminal disclaimer. See MPEP § 804(I)(B)(1) "If a provisional nonstatutory obviousness-type double patenting rejection is the only rejection remaining in the earlier filed of the two pending applications, while the later-filed application is rejectable on other grounds, the examiner should withdraw that rejection and permit the earlier-filed application to issue as a patent without a terminal disclaimer."

Accordingly, all claims are now fully in condition for allowance and a notice to that effect is respectfully requested. The PTO is hereby authorized to charge/credit any fee deficiencies or overpayments to Deposit Account No. 19-4293. If further amendments would place this application in even better condition for issue, the Examiner is invited to call applicant's undersigned attorney at the number listed below.

Respectfully submitted,

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Date: May 20, 2011

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